

Computational Study of Fiber and Wire Array Z-Pinches

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A multiphase equation of state and conductivity model is being added to TRAC-II, a 2-D (r-phi, or r-z) MHD code. Modeling for the transition from solid to gaseous plasma is included. We are also including a three temperature radiation diffusion model and a model for the resistivity due to the lower hybrid instability. Results will be compared to aluminum wire Z-pinch experiments which show the growth of sausage-like deformations. Extension of the code to the study of wire array Z-pinches will also be discussed.

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